

AMENDMENTS TO THE CLAIMS

1 (Currently Amended) A probe for the quantitative measurement of the feel of a surface (20), comprising:

- a prehensile casing (1);
- a hollow contacting body (6) intended to be brought into contact with said surface in a probed region;
- acoustic first detection elements (5) for detecting noise emitted by the said hollow body while it is in contact with said probed region; and
- mechanical second detection elements (4, 7, 8) designed to measure the either normal force or pressure and the friction force that are exerted by said surface on said hollow body.

2. (Currently Amended) The probe as claimed in claim 1, ~~in which~~ wherein the said acoustic first detection elements comprise a microphone held inside said prehensile casing, ~~this said~~ said microphone comprising a membrane (11) located inside said hollow body.

3. (Currently Amended) The probe as claimed in ~~either of the preceding claims, claim 1, in which~~ wherein the said mechanical second detection elements comprise at least one normal force sensor (4) designed to measure the normal force experienced by said hollow body while it is in contact with the said probed region.

4. (Currently Amended) The probe as claimed in ~~either of claims 1 and 2, claims 1, in which~~ wherein the said mechanical second detection elements comprise at least one normal pressure sensor designed to measure the normal pressure experienced by said hollow body while it is in contact with the said probed region.

5. (Currently Amended) The probe as claimed in ~~one of the preceding~~ claims claim 1, ~~in which wherein~~ the said mechanical second detection elements comprise at least one friction force sensor ~~(7, 8)~~ designed to measure the friction force experienced by said hollow body while it is in contact with ~~the~~ said probed region.

6 (Currently Amended) The probe as claimed in ~~one of the preceding~~ claims claim 1, which includes an elongate component ~~(3)~~ extending between two ends, which component is held inside ~~the~~ said prehensile casing and is connected at one of its ends to said hollow body, said component being designed to transmit the normal and friction forces to ~~the~~ said second detection elements.

7. (Currently Amended) The probe as claimed in ~~the preceding claim~~ claim 6, ~~in which wherein~~ the said friction force sensor comprises an accelerometer ~~(7)~~ and strain gauges ~~(8)~~ that are attached to said elongate component.

8. (Currently Amended) The probe as claimed in ~~the preceding claim~~ claim 7, ~~in which wherein~~ said elongate component includes two lateral openings ~~(35)~~ so as to form two plates (36) on either side of said elongate component, said plates bearing said strain gauges.

9. (Currently Amended) The probe as claimed in ~~the preceding claim~~, claim 8 ~~in which wherein~~ said elongate component is formed from a metal alloy.

10 (Currently Amended) The probe as claimed in ~~one of the preceding~~ claims claim 1, which comprises a diode ~~(9)~~ placed on ~~the~~ said prehensile casing and intended to indicate the direction of movement of said probe while it is in contact with ~~the~~ said probed region

11. (Currently Amended) The probe as claimed in claim 10 ~~in the~~ preceding claim, ~~in which wherein~~ the said diode is linked to an optical camera in order to

form a device for measuring the speed of movement of the said hollow body over the said probed region.

12. (Currently Amended) The probe as claimed in ~~one of the preceding~~ claims claim 1, ~~in which~~ wherein the said hollow body has a spherical shape.

13 (Currently Amended) The probe as claimed in ~~one of claims 1 to 11,~~ claim 1, ~~in which~~ wherein the said hollow body comprises a plane upper surface (6a) and a lower part consisting of a cylinder portion (6b).

14. (Currently Amended) The probe as claimed in ~~one of the claims 1 to 11~~ claim 1, ~~in which~~ wherein the said hollow body comprises an upper surface (6a) and a lower surface (6b) that are plane and approximately parallel, said hollow body having the a shape of a parallelepiped.

15. (Currently Amended) The probe as claimed in ~~one of the preceding~~ claims claim 1, ~~in which~~ wherein the said hollow body is made of carbon fiber

16. (Currently Amended) The probe as claimed in ~~one of the preceding~~ claims claim 1, which includes transmission elements (12) for transmitting data from the said first and second detection elements, and also from ~~the~~ a speed measurement device, to an electronic computing unit (30).

17. (Currently Amended) The probe as claimed in the preceding claim, ~~in which~~ wherein the said electronic computing unit is designed to convert said data into simple quantities for quantifying the feel of said probed region

18. (Currently Amended) The probe as claimed in the preceding claim, ~~in which (8)~~ wherein a gap is provided between said hollow body and said prehensile casing so as to allow normal and tangential movements of said hollow body.

19. (Currently Amended) The use of the probe as claimed in claim 1 for measuring the impact on the triboacoustic properties of a treatment applied to the said probed surface.